

memorandum

date November 5, 2010

to Debbie Bent, Planning Director
Lauri Anderson, Senior Planner

from Mark Johnson

subject **City of Kenmore, Shoreline Master Program Update – Revised Cumulative Impacts Analysis**

With the assistance of a grant, the City of Kenmore is updating its Shoreline Master Program (SMP) consistent with state guidelines (WAC Chapter 173-26). Under the shoreline guidelines, local jurisdictions are required to evaluate and consider cumulative impacts of reasonably foreseeable future development in the shorelines of the state (WAC 173-26-186(8)(d)). This memorandum briefly describes the baseline and assumptions for the analysis of cumulative impacts of development in the shoreline that would result from development and activities over time under the adopted City of Kenmore SMP. Attachment 1 is a table that analyzes the uses and modifications that are likely to occur, the measures that are included to control their impacts, other programs that support the goals of the SMP, and an indication of whether ecological functions would degrade, remain unchanged, or improve as a result of those uses and modifications. This analysis is intended to support the environmental review of the SMP amendments under the State Environmental Policy Act (SEPA) and to facilitate Ecology's review of the SMP.

Shorelines of the state in the City of Kenmore include 3.8 miles along the north shore of Lake Washington, the length of the Sammamish River within city limits (1.82 miles), and the entire length of the mainstem of Swamp Creek within city limits (2.53 miles). The shoreline planning area, not including the area waterward of the lake's ordinary high water mark (OHWM), encompasses approximately 475.15 acres and represents approximately 12 percent of the land inside the city of Kenmore. The planning area includes shorelines as defined by the state, including associated wetlands and the associated 100-year floodplain.

The purpose of evaluating cumulative impacts is to ensure that, when implemented over time, the adopted SMP goals, policies and regulations will achieve no net loss of shoreline ecological functions from current "baseline" conditions. Baseline conditions are identified and described in the City of Kenmore Shoreline Inventory and Analysis Report (ESA Adolfson, 2009a). The adopted Kenmore SMP provides standards and procedures to evaluate individual uses or developments for their potential to impact shoreline resources on a case-by-case basis through the permitting process. The purpose of this memorandum is to determine if impacts to shoreline ecological functions are likely to result from the aggregate of activities and developments in the shoreline that take place over time.

The guidelines state that, "to ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities" (WAC 173-26-286(8)(d)). Evaluation of such cumulative impacts should consider: 1) Current circumstances

affecting the shorelines and relevant natural processes; 2) Reasonably foreseeable future development and use of the shoreline; and 3) Beneficial effects of any established regulatory programs under other local, state, and federal laws.”

This cumulative impacts assessment uses these three considerations as a framework for evaluating the potential long-term impacts on shoreline ecological functions and processes that may result from development or activities under the adopted SMP over time.

1. Current Circumstances

The Kenmore Shoreline Inventory and Analysis Report (ESA Adolfson, July 2009) identifies existing conditions and evaluates the ecological functions and processes in the City’s shoreline jurisdiction. This report was revised to address public and technical review comments, including comments from the WA Department of Ecology, and finalized in June 2009. The inventory evaluated all shoreline areas within the City of Kenmore, including watershed-scale processes.

1.1 Shoreline Reaches

For purposes of the shoreline inventory and analysis, the shoreline planning area was divided into segments, called reaches or shoreline planning areas. Reaches were delineated based on significant changes in the physical and biological composition of the regulated waterbody’s shoreline. The Lake Washington shoreline was divided into four reaches, the Sammamish River shoreline into three reaches, and the Swamp Creek shoreline into four reaches (Table 1 and Attachment 2).

Table 1. Shoreline Reaches

<i>Reach Code</i>	<i>Reach Name</i>	<i>Boundary Description</i>
Lake Washington		
LAKE_WA_01	St. Edward Park	Southern extent of the Lake Washington shoreline from the southern City limits to the northern edge of the undeveloped shoreline (south of Arrowhead Point).
LAKE_WA_02	Inglewood / Arrowhead Point	Lake Washington from the south side of the mouth of the Sammamish River south to the southern extent of the lake shoreline with existing residential development (south of Arrowhead Point).
LAKE_WA_03	Kenmore Air Harbor / Kenmore Pre Mix	Lake Washington from the western edge of the Harbour Village Marina to the north side of the mouth of the Sammamish River.
LAKE_WA_04	Log Boom Park	Northwestern extent of the Lake Washington shoreline, from the eastern city limits to the public moorage and fishing pier at the eastern end of Log Boom Park.
Sammamish River		
SAMM_RV_01	Sammamish River Delta	The lower Sammamish River, from the 68 th Avenue NE bridge to the mouth of the river.

<i>Reach Code</i>	<i>Reach Name</i>	<i>Boundary Description</i>
SAMM_RV_02	Rhododendron Park / Central Sammamish River	The Sammamish River from the 68 th Avenue NE bridge to the convergence of Swamp Creek.
SAMM_RV_03	Eastern Sammamish River	The Sammamish River from the convergence of Swamp Creek upstream to the eastern city limits.
Swamp Creek		
SWAM_CK_01	Lower Swamp Creek	Swamp Creek from its convergence with the Sammamish River to the Bothell Way (State Route 522) crossing.
SWAM_CK_02	Bothell Way Corridor – Swamp Creek	Swamp Creek from the Bothell Way crossing upstream to the southern extent of the Swamp Creek wetland complex.
SWAM_CK_03	Swamp Creek Wetland Complex	Swamp Creek throughout the Swamp Creek wetland complex, from the NE 179 th Street alignment north to NE 193 rd Street.
SWAM_CK_04	Wallace Swamp Creek Park / Northern Swamp Creek	Swamp Creek from NE 193 rd Street north to the northern city limits.

1.2 Watershed Context

The City of Kenmore is situated in the Puget Sound Lowlands in Water Resource Inventory Area (WRIA) 8, Cedar – Sammamish watershed, at the north end of Lake Washington. The Sammamish River originates at the north end of Lake Sammamish and ends at the river mouth at the northern tip of Lake Washington, a distance of 13.8 river miles. The volume and rate of surface water discharge from Lake Sammamish is moderated by a weir at Marymoor Park. The river drains a watershed that includes the Lake Sammamish basin, Bear Creek basin, Little Bear Creek basin, Swamp Creek basin, and North Creek basin. Swamp Creek, a subbasin to the Sammamish River and the north end of Lake Washington, originates in the southern extent of the city of Everett, just south of State Highway 526. The mainstem of the creek flows approximately 14 miles before emptying into the Sammamish River less than a mile upstream from where the river empties into the northern end of Lake Washington.

The land area of WRIA 8 is some of the most intensely developed within the state. Land use activities associated with intensifying development can have a significant impact on groundwater and surface water quality, as well as human use, wildlife use, and natural habitat. Recent studies in the Puget Sound Lowlands have shown that as human populations increase in an area, there is a direct correlation to a decrease in the quality of surface and groundwater conditions, as well as other natural functions and processes, in the basins that are undergoing development. At the watershed scale, the majority of the Sammamish River and Lake Sammamish watersheds above the city of Kenmore were until the last century managed as forestland, parkland, or as informal or designated wilderness areas. However, in the last century, much of the upstream watershed has undergone transition from predominantly forestry, parkland, and rural land uses to the highly developed residential, industrial, and commercial development that now dominates much of the Sammamish River watershed.

1.3 Ecosystem Processes

The status of shoreline ecosystem processes in Kenmore's shorelines is discussed in detail in the Shoreline Inventory and Analysis (June 2009) and is summarized in Table 2 below. This summary is organized by water body (Lake Washington, Sammamish River and Swamp Creek) and major ecosystem process (water quality, biological resources, and hydrology).

Table 2. Status of Existing Shoreline Ecosystem Processes in Kenmore

<i>Ecosystem Process</i>	<i>Status of Ecosystem Process</i>	<i>Scale of Alterations</i>
Lake Washington (21.2% of shoreline planning area)		
Water Quality	<p>Phosphorus loading from Sammamish River affects lake water quality. Multiple sources of phosphorus, including fertilizer</p> <p>Changes in land use and urbanization have increased input of pollutants to the lake, including legacy of industrial uses on shoreline.</p> <p>High temperature due to reduction in shoreline vegetation and urbanization.</p> <p>Lake requires Total Maximum Daily Load (TMDL) limits for several water quality parameters based on fish tissue samples.</p>	Basin
Biological Resources	<p>Shoreline armoring, urbanization, loss of shoreline vegetation, reduction in large woody debris and overwater structures along Lake Washington have impacted riparian and aquatic habitat quality and functions.</p> <p>Invasive plant species and noxious weeds are generally present, although LAKE_WA_01 contains the largest area of undisturbed lakeshore riparian vegetation along all of Lake Washington.</p> <p>Existing wetlands outside of the shoreline jurisdiction play an important role in supporting shoreline resources.</p>	Reach
Hydrology	<p>Construction of the Ship Canal lowered and now controls the water level in Lake Washington. Sammamish River modifications historically modified watershed hydrology.</p> <p>Localized shoreline armoring, fill, dredging and wetland modification continue to affect hydrology.</p>	Reach and Basin
Sammamish River (30.5% of shoreline planning area)		
Water Quality	<p>Loss of riparian canopy has affected river temperature.</p> <p>Changes in land use have increased input of pollutants to the river.</p> <p>Overall water quality is improving, however the river requires TMDLs for dissolved oxygen, temperature and fecal coliform.</p> <p>Recreational uses increase turbidity, resuspend contaminated sediments and introduce other pollutants.</p>	Basin and Reach

<i>Ecosystem Process</i>	<i>Status of Ecosystem Process</i>	<i>Scale of Alterations</i>
Biological Resources	<p>Historic and current development, overwater structures and bank armoring have reduced shoreline vegetation and large woody debris.</p> <p>Loss of riparian canopy has affected river temperature and limited salmonids.</p> <p>Riparian vegetation is dominated by residential landscaping and invasive plants.</p> <p>Changes in land use have increased input of sediment and pollutants to the river and affected fish habitat.</p> <p>There is inadequate spawning gravel due to confinement of the river channel. Historic river modification reduced instream habitat complexity in general.</p> <p>There is reduced fish access to tributaries due to erosion and sedimentation.</p> <p>Recreational uses affect water quality, spread invasive plant species and cause noise that affects fish and wildlife.</p>	Reach
Hydrology	<p>Construction of the Ship Canal and straightening/dredging of the Sammamish River historically modified watershed hydrology and disconnected the river from its floodplain and associated wetlands. The river's water level is controlled (see discussion of Lake Washington hydrology).</p> <p>Degradation and loss of wetland areas associated with the lower Sammamish River have affected water storage functions.</p> <p>Impervious cover has modified aquifer recharge and natural flow path processes.</p>	Basin
Swamp Creek (48.3% of shoreline planning area)		
Water Quality	<p>Urban development in the upper basin of Swamp Creek has increased stormwater runoff and input of pollutants to the creek.</p> <p>TMDLs have been established for temperature, dissolved oxygen, fecal coliform, mercury and bioassessment.</p>	Basin
Biological Resources	<p>Urban development in the upper basin of Swamp Creek has increased stormwater runoff and input of sediment and other pollutants to the creek, negatively affecting fish habitat. Development has affected riparian and instream habitat quality and functions.</p> <p>Less than 20 percent of the basin remains forested and riparian zones are dominated by landscaping and exotic species.</p> <p>Channel incision and blocked culverts impede fish passage.</p>	Basin
Hydrology	<p>The frequency and severity of flooding has increased due to urbanization, vegetation clearing, grading, impervious surfaces and inadequate storm detention.</p> <p>Impervious surface has modified aquifer recharge and natural flow path processes.</p>	Basin

A number of fish and wildlife species use the shorelines in Kenmore for habitat. Critical fish and wildlife habitats are those areas identified as being of critical importance in the maintenance and preservation of fish, wildlife, and natural vegetation as defined by Kenmore's Critical Area Ordinance (KMC Chapter 18.55). Several federally listed species are known to occur or could potentially occur within the City's shoreline planning area, including Chinook salmon, bull trout, and steelhead. Critical habitat for Chinook salmon and bull trout includes the entire Lake Washington shoreline within the City's shoreline planning area.

Priority species and habitat have been identified in the City of Kenmore by the Washington State Department of Fish and Wildlife (WDFW). Priority species documented in Kenmore include Chinook salmon, bull trout, coho salmon, sockeye, kokanee, steelhead, coastal cutthroat, bald eagle, pileated woodpecker, and great blue heron. The City's shoreline planning area contains two types of priority habitats: urban natural open spaces and wetlands. In addition, bald eagle nests are documented within the City, and bald eagle foraging and roosting habitat have been identified by WDFW along the shorelines of Lake Washington and the Sammamish River.

1.4 Shoreline Use and Public Access

Current Shoreline Uses

Kenmore was incorporated in 1998. Slower to develop than surrounding communities such as Bothell and Lake Forest Park because of large tracts in private ownership, the Kenmore area was mostly known for the abundance of wildlife and waterfowl that concentrated near the confluence of the Sammamish River and Lake Washington. Early shoreline development and use along Lake Washington included water-dependent industries such as shake mills, boat docks, log storage, hotels, and other uses related to timber harvest. However, by the end of World War I, the area that today comprises the city of Kenmore began to develop in more suburban residential uses. This development trend has continued. Today the 6.1 square miles of incorporated Kenmore is dominated by relatively low-intensity urban residential land uses with a concentration of commercial and industrial uses in the downtown area. There are also extensive public lands along the shoreline, including natural and recreational areas.

Table 4-2 in the Shoreline Inventory and Analysis provides statistics on the distribution of existing land uses.

Water-oriented uses are currently concentrated in or near the downtown area, including the barging operation that supports the Glacier Northwest cement plant, the Kenmore Air Harbor and marina, and the WDFW boat launch. It is unlikely that these uses will move or alter their operations substantially in the foreseeable future, and it is not anticipated that there would be a large increase in water-dependent industrial or manufacturing uses in the area. King County is considering providing new water taxi or ferry service from the Kenmore shoreline, but no specific plans have been proposed to date.

Public Access

The Parks Plan (City of Kenmore, 2003) describes the parks, open spaces, and trails (existing and proposed) throughout Kenmore, including within the City's shoreline planning area. Chapter 4 of the Inventory and Analysis provides detailed information on existing shoreline public access. In summary, City and County parks, facilities, and open space areas that offer access to the Lake Washington shoreline include Saint Edward State Park, the Inglewood Wetlands, and Log Boom Park. In addition, the Burke-Gilman Trail parallels NE Bothell Way to the north of Lake Washington and passes within reaches LAKE_WA_03 and LAKE_WA_04. The WDFW boat ramp located immediately west of the 68th Avenue NE Sammamish River Bridge provides access to Lake Washington and the River. Other public areas that offer access to the Sammamish River shoreline include the Inglewood Wetlands, Rhododendron Park, and Swamp Creek Park. The Sammamish River Trail also parallels NE Bothell Way to the north of the Sammamish River and passes within the shoreline planning area near the eastern city limits. Public access to the Swamp Creek shoreline area is provided in Swamp Creek Park, property within the Swamp Creek wetland complex, and Wallace Swamp Creek Park. In addition, the Burke-Gilman Trail crosses Swamp Creek as it parallels NE Bothell Way, near the boundary of reaches SWAM_CK_01 and 02.

1.5 Restoration Opportunities

Table 3 below identifies restoration opportunities within each shoreline reach in Kenmore. Further discussion of restoration opportunities can be found in the Shoreline Restoration Plan (ESA Adolfson, 2009b) and Shoreline Inventory and Analysis.

Table 3. Restoration Opportunities

Lake Washington Reaches					
Restoration Opportunity	Functions Improved	Reaches			
		01	02	03	04
Riparian enhancement	<ul style="list-style-type: none"> Increased input of detritus and insects from shoreline vegetation Increased large woody debris Improved wildlife habitat Reduction of invasive plant species extent and potential for future spread 		X	X	X
Protection of wetlands that drain to lake tributaries	<ul style="list-style-type: none"> Attenuation of stormwater flows Filtration of sediments Improvement of stormwater quality (nutrients, fecal coliform, chemicals) 	X	X	X	
Remove or improve the design of docks and other overwater structures, for example by using light-permeable dock surfaces or community docks	<ul style="list-style-type: none"> Improve rearing and migratory habitat for juvenile fish Reduce potential for water quality contamination from leaching of chemically treated wood Reduce overwater shading that may attract juvenile salmonid predators 		X	X	X
Restoration of armored shorelines, for example through reducing shoreline slope, revegetating with native species	<ul style="list-style-type: none"> Allow natural sediment movement from upland areas to shorelines Improve conditions for growth of riparian vegetation Improve nearshore foraging habitat for fish Provide large wood and nutrient inputs to lake Restore shallow-water emergent wetland areas 		X	X	X
Restore smaller tributary streams	<ul style="list-style-type: none"> Improve fish access to tributaries Reconnect and enhance the mouths of small streams as juvenile salmon rearing areas Protect and restore riparian buffers along streams As redevelopment occurs throughout the basins draining to Kenmore's shorelines, ensure that stormwater regulations are enforced to reduce water quality and high flow impacts. 		X	X	

Lake Washington Reaches-Continued					
Restoration Opportunity	Functions Improved	Reaches			
		01	02	03	04
Preservation of remaining natural areas, for example through acquisition or easement	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 		X		
Sammamish River Reaches					
Opportunities	Functions Improved	Reaches			
		01	02	03	
Riparian enhancement	<ul style="list-style-type: none"> Increased input of detritus and insects from shoreline vegetation Increased large woody debris Improved wildlife habitat Reduction of invasive plant species extent and potential for future spread Improved shading and incremental reduction of stream temperatures 	X	X	X	
Restoration and reconnection of floodplain wetlands	<ul style="list-style-type: none"> Attenuation of stormwater flows Filtration of sediments Improvement of stormwater quality (nutrients, fecal coliform, chemicals) Improvement of habitat for wetland-dependent wildlife species 	X	X	X	
Remove or improve the design of docks and other overwater structures, for example by using light-permeable dock surfaces or community docks	<ul style="list-style-type: none"> Improve rearing and migratory habitat for juvenile fish Reduce potential for water quality contamination from leaching of chemically treated wood Reduce overwater shading that may attract juvenile salmonid predators 	X	X	X	
Restoration of armored shorelines, for example through reducing shoreline slope, revegetating with native species	<ul style="list-style-type: none"> Allow natural sediment movement from upland areas to shorelines Improve conditions for growth of riparian vegetation Improve nearshore foraging habitat for fish Provide large wood and nutrient inputs to river Restore floodplain wetland areas 	X	X	X	
Restore smaller tributary streams	<ul style="list-style-type: none"> Improve fish access to tributaries Reconnect and enhance the mouths of small streams as juvenile salmon rearing areas Protect and restore riparian buffers along streams Reduce water temperatures of tributaries thereby providing incremental improvement in river temperature 	X	X	X	

Sammamish River Reaches					
Opportunities	Functions Improved	Reaches			
		01	02	03	
Create pools in river channel downstream of tributaries	<ul style="list-style-type: none"> Improved refuge and cover for salmon 		X	X	
Education of recreational users of river	<ul style="list-style-type: none"> Reduce impacts of recreational use – invasive aquatics, pollution, noise 	X	X	X	
Preservation of remaining natural areas, for example through acquisition or easement	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 	X	X	X	
Educate shoreline property owners on ways to restore and protect shoreline areas	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 	X	X	X	
Swamp Creek Reaches					
Opportunities	Functions Improved	Reaches			
		01	02	03	04
Riparian enhancement	<ul style="list-style-type: none"> Increased input of detritus and insects from shoreline vegetation Increased large woody debris Improved wildlife habitat Reduction of invasive plant species extent and potential for future spread Improved shading and incremental reduction of stream temperatures 	X	X	X	X
Restoration and preservation of floodplain wetlands	<ul style="list-style-type: none"> Attenuation of stormwater flows Filtration of sediments Improvement of stormwater quality (nutrients, fecal coliform, chemicals) 	X		X	X
Restore smaller tributary streams	<ul style="list-style-type: none"> Improve fish access to tributaries Reconnect and enhance the mouths of small streams as juvenile salmon rearing areas Protect and restore riparian buffers along streams 			X	X
Preservation of remaining natural areas, for example through acquisition or easement	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 			X	X
Educate shoreline property owners on ways to restore and protect shoreline areas	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 	X	X	X	X

2. Reasonably Foreseeable Future Development and Use

2.1 Comprehensive Plan Designations/Zoning

The City of Kenmore has regulatory authority over land uses within the city limits. The City plans its future land use pattern through its Comprehensive Plan (City of Kenmore 2006) and future land uses through the Comprehensive Plan's land use designations. This planned land use pattern is enacted through the City's zoning regulations. The Comprehensive Plan land use designations have been largely enacted through compatible zoning. Also see Attachment 3, City of Kenmore Comprehensive Plan Future Land Use Map.

2.2 Vacant Parcels and Redevelopment Potential

Table 4 below provides statistics on current shoreline development in Kenmore. These statistics are an indicator in the amount and type of future development that will need to be managed under the City's SMP. There are relatively few undeveloped parcels on Kenmore's shorelines, especially on Lake Washington. For the purposes of this analysis, park sites are considered "developed" even though there are large unmodified shorelines at St. Edward Park and Log Boom Park. The largest number of undeveloped parcels is along Swamp Creek.

Table 4. Overview of Land Use and Modifications by Shoreline Reach

Reach Name	% Developed Parcels (% of total parcels in reach)		Type of Undeveloped Land
	Developed Parcels	Undeveloped Parcels	
LAKE_WA_01	50	50	Single family (note that there are very few parcels in this reach; the majority of the reach is in St. Edward Park)
LAKE_WA_02	93	7	Open space and wetlands
LAKE_WA_03	100	0	NA
LAKE_WA_04	100	0	NA
SAMM_RV_01	100	0	NA
SAMM_RV_02	98	2	Park
SAMM_RV_03	95	5	Public/private institution, recreation
SWAM_CK_01	37	63	Public/private institution, including park
SWAM_CK_02	100	0	NA
SWAM_CK_03	85	15	Public /private institution, including open space
SWAM_CK_04	92	8	Public/private institution, including park and school

2.3 Population Growth and Expected Land Use Change

Between 1970 and 2000 the population of Kenmore more than doubled, increasing to a total of 20,540 people. It is projected that the population in the area has the potential to increase by another 9.2 percent by the year 2020 (City of Kenmore 2006). This will increase the number of people who want to use the shoreline for recreational and commercial purposes. However, the land use pattern on most of Kenmore's shorelines is expected to remain stable. Saint Edward State Park and the wetlands and parks along Swamp Creek and the Sammamish River are protected through government ownership and current management policies and by critical areas regulations.

Single-family zones along Lake Washington are nearly fully developed with homes. Along Swamp Creek, single-family zones are either already developed or are subject to critical areas requirements that will require the area immediately adjacent to the shoreline to remain largely undeveloped. Based on a review of aerial photo and King County Assessor's data, all privately owned and undeveloped properties within the shoreline appear to have adequate area outside of the buffer to access and construct a single family residence.

Some of the multi-family zones along the Sammamish River and the north end of Lake Washington are developed to the degree allowed by existing zoning and are unlikely to be further developed. Commercial operations like Kenmore Air Harbor and the marinas on the north shore of Lake Washington are unlikely to move or alter their operations substantially in the foreseeable future. Owners of the Glacier Northwest cement plant, Plywood Supply and LakePointe properties have indicated that redevelopment of their sites into mixed use development is possible, and therefore are included in this analysis. It is not anticipated that there would be a large increase in water-dependent industrial uses in the area, but existing uses could seek to expand if allowed to do so.

Only a few key large properties, such as the proposed LakePointe Mixed Use Development, are likely to be redeveloped and could significantly affect the intensity of shoreline use. The primary demand in the shoreline is expected to be for residential uses and mixed uses that take advantage of shoreline views and urban amenities. Mixed urban uses, such as restaurants that complement residential development, are expected to be in growing demand along downtown shorelines as redevelopment occurs. There is also expected to be continuing demand for minor modifications to the shoreline such as the addition or replacement of docks and bulkheads. Demand for roadways will likely continue to grow. This could create pressure to expand roads, as is occurring on NE Bothell Way, and bridges, such as the 68th Avenue NE Bridge over the Sammamish River and bridges on Swamp Creek.

King County has been studying the possibility of constructing a passenger ferry terminal in Kenmore as part of a proposed passenger ferry service on Lake Washington. If this were to be constructed, it would likely be in the Downtown Waterfront shoreline environment, although a specific location has not been identified.

3. Beneficial Effects of Adopted SMP

3.1 Changes to Shoreline Environment Designations

The City of Kenmore adopted King County's SMP when the City incorporated in 1998. The 1998 SMP includes general policies and regulations to govern development and other activities in the City's shorelines. The City's municipal code regulates shoreline development by requiring shoreline permits consistent with the SMA and the SMP. KMC Title 16 establishes procedures for administration of shoreline permits.

Local SMPs establish a system to classify shoreline areas into specific "environment designations." The purpose of shoreline environment designations is to provide a uniform basis for applying policies and use regulations within distinctly different shoreline areas. In a regulatory context, shoreline environment designations function similarly to zoning overlay districts. That is, they provide an additional layer of policy and regulations that apply to land within the SMP jurisdiction. Generally, environment designations should be based on biological and physical capabilities and limitations of the shoreline, existing and planned development patterns, and a community's vision or objectives for its future development.

The environment designations in the City's current SMP were developed based primarily on land use patterns as they existed in rural King County in the 1970s. The environment designations have not been updated since they were originally adopted.

The adopted changes to environment designations are described in Figure 1. The new system applies designation criteria and management policies consistently across areas with similar current and planned land uses and resource characteristics. The adopted designations are consistent with both the existing land use pattern and the Comprehensive Plan future land use designations and provide for more uniform management of similar shoreline areas. Regulation of uses and shoreline modifications associated with each designation is generally most restrictive or protective for “Natural” areas, followed by “Urban Conservancy”, “Shoreline Residential”, and then “Downtown Waterfront.” The new “Aquatic” environment applies to in-water areas on Lake Washington and Lake Sammamish that were previously designated with the adjacent landward designation. .

The existing and adopted shoreline environment designations are shown in Attachments 4 and 5, respectively.

COMPARISON OF CURRENT AND ADOPTED DESIGNATIONS		
CURRENT CITY DESIGNATIONS	ADOPTED DESIGNATIONS	ASSIGNMENT CRITERIA
Urban	<i>Downtown Waterfront</i>	<ul style="list-style-type: none"> • Located along downtown waterfront—special planning area • Commercial/industrial uses where substantial change is planned or expected
Urban Rural Conservancy	<i>Urban Conservancy</i>	<ul style="list-style-type: none"> • Exceptional riparian vegetation • Wetlands • Public ownership with altered shoreline
Conservancy Urban Rural	<i>Shoreline Residential</i>	<ul style="list-style-type: none"> • Residential Zones
Natural (No shorelines currently designated) Rural Urban Conservancy	<i>Natural</i>	<ul style="list-style-type: none"> • Large public ownership • Ecologically intact or minimally altered shoreline
Undesignated In-Water Area (Below ordinary high water mark)	<i>Aquatic</i>	<ul style="list-style-type: none"> • Lake Washington • Sammamish River

Figure 1. Comparison of Current and Adopted Shoreline Designations

3.2 Adopted Changes to Shoreline Development Standards and Use Regulations

This section describes in general terms how the adopted SMP provides increased protection to shoreline functions and processes as compared to the current SMP. Attachment 1, Future Shoreline Ecological Function Performance Analysis, cites specific provisions in the adopted SMP and Adopted Restoration Plan (ESA Adolfson, September 2010) that serve to protect and enhance shoreline ecological functions. For each shoreline use and modification, Attachment 1 describes potential effects on shoreline ecosystem processes, existing regulatory controls, and an assessment of expected future performance.

The Adopted SMP includes several changes to the shoreline policies and development regulations that encourage shoreline conservation and prohibit activities that would cause adverse impact to shoreline functions and processes. The most significant changes to the policies include:

- New shoreline management policies that recognize the City’s vision for the downtown waterfront, and placing more value on the most ecologically intact portions of the shoreline, consistent with current zoning and City plans.
- New environmental policies clarifying a principle of “no net loss of ecological functions” for development in Kenmore’s shorelines, as required in RCW 90.58 and WAC 173-26. The policies require protection equal to or better than that provided by Kenmore’s critical areas regulations.

The adopted shoreline regulations codify the adopted shoreline designations, the “no net loss” principle, and integrate current critical areas regulations into the SMP. Other significant changes include proposals to:

- Allow non-water oriented (such as restaurants, marine sales, and residential uses) as part of mixed-use developments that also have water-dependent uses in the Downtown Waterfront shoreline environment (most of these uses are currently prohibited).
- Restrict the height of mixed use development as compared to the current SMP, but still allow for structures up to 75 feet in height in some areas when views from a substantial number of residences would not be blocked.
- Allow live-aboard vessels in marinas under certain conditions (live-aboards are currently prohibited).
- Expand public access and recreation provisions.
- Update pier and dock standards based on the WAC and US Army Corps of Engineers guidelines, including specific changes in dimensions and building materials requirements. These standards provide for salmon habitat protection specifically. An alternative compliance path is provided for those who choose to propose another method of improving habitat for pier and dock construction.
- Limit how bulkheads may be constructed in accordance with WAC guidelines, requiring use of “softer” shoreline stabilization solutions where feasible, and provide an incentive to replace nonconforming stabilization with stabilization that reduces impacts on ecological functions
- Update standards for protection of shoreline vegetation on Lake Washington.
- Expand shoreline setbacks and new building setbacks along Lake Washington. These setbacks vary depending on the type of shoreline use.
- Integrate critical areas regulations requiring changes to other Code sections, which are provided in Section D of the adopted SMP.

The adopted changes to development standards and use regulations are, in general, more protective than the existing SMP. New development would be required to meet standards contained in the Critical Areas Ordinance

(for Swamp Creek and the Sammamish River) and meet the policy intent and development standards of the SMP. As redevelopment occurs, the policies and regulations in the SMP require that development be located and designed in a manner that avoids impacts to ecological functions and/or enhances functions where they have been degraded. For example, the vegetation conservation measures may require that, as part of a redevelopment proposal, non-native or invasive species be replaced with native vegetation appropriate for riparian or nearshore aquatic environments.

3.3 Restoration Planning

Consistent with state guidelines (WAC 173-26-186), the adopted SMP includes a new section establishing restoration goals for the City, and identifying restoration opportunities and broad restoration actions to achieve the goals. The restoration goals and actions were developed based on the baseline conditions of the shorelines as determined by the results of the Inventory and Analysis Report and considering the City's vision for future land uses. The City's intent is to meet the "no net loss" standard, and result in an overall improvement to the condition of the habitat and resources within the shoreline jurisdiction of the City over time. Restoration actions are summarized below in Table 5, along with a list of associated goals and policies from the adopted SMP. The City of Kenmore will prioritize and pursue funding for these projects as part of its implementation of the adopted SMP. The Restoration Plan may also be used as a guide by the City in directing any required off-site mitigation to priority shoreline restoration sites.

Table 5. Recommended restoration and protection actions for City of Kenmore Shorelines

Reach	Recommended Restoration Action	Associated Goals and Policies
Lake Washington		
Lake_WA_01	<ul style="list-style-type: none"> Maintain intact forest and riparian habitat structure at St. Edward State Park. 	Goal 21.1 Policy LU-21.1.4 Policy LU-21.2.1 Policy LU-17.4.1 Policy LU-17.4.5 Policy LU-21.5.1
Lake_WA_02	<ul style="list-style-type: none"> Add shoreline structure (e.g., overhanging trees and shrubs and large woody debris) in NE Arrowhead Drive and 59th Avenue NE cove area. Encourage replacement of residential docks with structures that better address habitat requirements, such as use of grated decking, nontoxic materials, and minimizing overwater coverage in shallow water areas. Encourage the replacement of bulkheads with softer stabilization methods that include better habitat value, such as creating shallow water areas and providing overhanging vegetation. Promote the development of a riparian buffer along the golf course through education and voluntary action. Enhance adjacent riparian areas to reduce fragmentation of existing wetland habitat (create one contiguous wetland area) for the Inglewood Wetlands. Promote improved stormwater control in basins draining to the shoreline through implementation of existing or new stormwater regulations as development occurs. 	Policy LU-17.2.1 Policy LU-17.3.1 Policy LU-21.1.2 Policy LU-21.3.1 Policy LU-21.4.2 Policy LU-23.10.2 Policy LU-24.2.11 Policy LU-24.3.6 Policy LU-24.7.1 Policy LU-21.5.1 Policy LU-21.5.4
Lake_WA_03	<ul style="list-style-type: none"> Create a master plan for the long term development of the LakePointe property (near 68th Street) that provides for a protected riparian corridor with enhanced vegetation. Remove debris and derelict equipment within the LakePointe property shoreline. Survey this area and other commercial and industrial areas for debris, including submerged material, that should be removed from the shoreline zone. Promote reduction in impervious surface and re-establishment of riparian vegetation along the shoreline at the Kenmore Air Harbor Marina. Promote improved stormwater control in basins draining to the shoreline through implementation of existing or new stormwater regulations as development occurs. 	Policy LU-17.1.5 Policy LU-21.1.2 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4

Reach	Recommended Restoration Action	Associated Goals
Lake_WA_04	<ul style="list-style-type: none"> Develop and implement a stream stabilization and rehabilitation plan for the mouth of Stream 0056 near Log Boom Park. This should include modifications to improve fish passage. The plan should also include the establishment of riparian vegetation and installation of wood pieces to improve the link between terrestrial and aquatic habitat, and to improve refuge and foraging opportunities for fish. Maintain established wildlife trees at Log Boom Park. Introduce additional native vegetation in Log Boom Park, specifically between the park and Harbor Village Condominiums to create a longer riparian corridor. Include this area in a general invasive vegetation survey and removal program. Add shoreline habitat structure (e.g., boulders, logs and large woody debris, and overhanging vegetation) in cove area near Log Boom Park. Replace SR 522 culvert to proper size in order to improve Stream 0056. 	Policy LU-17.3.12 Policy LU-17.3.1 Policy LU-21.1.2 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4
Sammamish River		
Samm_Rv_01	<ul style="list-style-type: none"> Maintain existing habitat on the island near Inglewood wetlands/stream mouth. Develop a plan for Inglewood wetlands to manage them as one contiguous wetland area through cooperation with adjacent property owners and/or additional City acquisition. Work with WDFW to improve boat launch area, including possible installation of equipment wash facilities to reduce the spread of invasive plants, protecting and restoring the adjacent wetland areas, and enhancing the area with larger riparian plants such as willows. 	Policy LU-17.3.1 Policy LU-21.1.2 Policy LU-21.3.1 Policy LU-19.3.1 Goal 21.4 Policy LU-21.5.1 Policy LU-21.5.4
Samm_Rv_02 and Samm_Rv_03	<ul style="list-style-type: none"> Install large woody debris where possible to promote pooling and habitat diversity within the channel. Encourage the establishment of additional vegetation in the riparian buffer as redevelopment occurs. 	Policy LU-17.2.1 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.3 Policy LU-21.5.4
Swamp Creek		
Swam_Ck_01	<ul style="list-style-type: none"> Remove reed canary grass and re-grade area to enhance wetland formation. 	Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4
Swam_Ck_02	<ul style="list-style-type: none"> Remove creosote-treated wooden pilings from the Burke-Gilman pedestrian bridge adjacent to SR 522. Consider replacing the existing pedestrian bridge with a clear-span bridge. In the vicinity of the pedestrian bridge and the nearby SR 522 (bridge and road construction area) remove invasive vegetation such as Japanese knotweed and improve habitat structure through bank grading, placement of LARGE WOODY DEBRIS, and installation of native riparian vegetation. 	Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4

Reach	Recommended Restoration Action	Associated Goals
Swamp Creek- continued		
Swam_Ck_03	<ul style="list-style-type: none"> Control and monitor encroaching invasive plants, including Japanese knotweed, Himalayan blackberry, and Scots broom below 73rd Avenue bridge and in upland buffer areas. Remove ecology blocks and other material remaining from flood damage repairs and replace with large woody debris. 	Policy LU-17.2.1 Policy LU-17.3.1 Policy LU-17.3.11 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4
Reach	Recommended Restoration Action	Associated Goals
Swam_Ck_04	<ul style="list-style-type: none"> Remove concrete and asphalt debris from stream channel in Wallace Park area. Remove extensive Japanese knotweed and Scot's broom in Wallace Park and surrounding area. Commit to a long term strategy for identification and removal of invasive plants. 	Policy LU-17.3.1 Policy LU-17.3.11 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4

4. Beneficial Effects of Any Established Regulatory Programs under Other Local, State, and Federal Laws

A variety of other regulatory programs, plans, and policies work in concert with the City's SMP to manage shoreline resources and regulate development near the shoreline. The City's Comprehensive Plan establishes the general land use pattern and vision of growth and development the City has adopted for areas both inside and outside the shoreline jurisdiction. Various sections of the Kenmore Municipal Code are relevant to shoreline management, such as KMC Title 18 Zoning and KMC Title 20 Development Permits.

The City's development standards and use regulations for environmentally critical areas (KMC Chapter 18.55) are particularly relevant to the City's SMP. Designated environmentally critical areas are found throughout the City's shoreline jurisdiction. The adopted SMP designates the same areas as critical areas under the SMP, and generally imposes the same regulations. The SMP recognizes that the Lake Washington shorelines were not designated as critical areas, but meet the definition of critical areas under WAC 173-26, and therefore incorporates them and provides standards for development within them. The SMP also recognizes that the need for shoreline public access and water dependent use in some critical areas and their buffers can be addressed through development and performance standards and so allows these uses subject to new standards.

A number of state and federal agencies have jurisdiction over land or natural elements in the City's shoreline jurisdiction. Local development proposals most commonly trigger requirements for state or federal permits when they impact wetlands or streams; potentially affect fish and wildlife listed under the federal Endangered Species Act (ESA); result in over one acre of clearing and grading; affect the floodplain or floodway; or involve in- water or over- water activities. As with local requirements, state and federal regulations may apply throughout the city, but regulated resources are common within the City's shoreline jurisdiction. The state and federal regulations affecting shoreline-related resources include, but are not limited to:

Hydraulic Project Approval (HPA). The HPA program applies to any construction activity in or near the waters of the state. The program is administered by the WDFW. All applicable projects are required to submit permit applications to show that construction is done in a manner to prevent damage to the state's fish, and shellfish, and their habitats.

National Pollutant Discharge Elimination System (NPDES). Ecology regulates activities that result in wastewater discharges to surface water from industrial facilities or municipal wastewater treatment plants. NPDES permits are also required for stormwater discharges from industrial facilities, construction sites of one or more acres, and municipal stormwater systems that serve census-defined Urbanized Areas, which include any urbanized areas with more than 50,000 people and densities greater than 1,000 people per square mile.

Clean Water Act Section 404 Dredge and Fill Requirements. Section 404 of the Federal Clean Water Act (USC 1394) regulates the discharge of dredged or fill material into waters of the United States. Any project that proposes discharging dredged or fill material into the waters of the United States, including special aquatic sites such as wetlands (non-isolated), must get a Section 404 permit. The U.S. Army Corps of Engineers (Corps) can authorize activities by a standard individual permit, letter-of-permission, nationwide permit, or regional permit. The Corps makes the determination on what type of permit is needed.

Clean Water Act Section 401 Water Quality Certification. Applicants receiving a section 404 permit from the U.S. Army Corp of Engineers, a Coast Guard permit or license from the Federal Energy Regulatory Commission (FERC), are required to obtain a section 401 water quality certification from the Department of Ecology (Ecology). Issuance of a certification means that Ecology anticipates that the applicant's project will comply with state water quality standards and other aquatic resource protection requirements under Ecology's authority.

Washington State Water Pollution Control Act. All projects effecting surface waters in the state, including those that are not subject to the Federal Clean Water Act sections 404/401 must still comply with the provisions of the State's Water Pollution Control Act (RCW 90.48).

Federal Endangered Species Act (ESA). All projects that have the potential to directly or indirectly impact wildlife species listed as endangered or threatened under ESA are subject to environmental review by the U.S. Fish and Wildlife Service (USFWS) or the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries). Chinook salmon in Kenmore's jurisdiction are listed as threatened.

Rivers and Harbors Act Section 10 (Permit for Work in Navigable Waters). The Corps has jurisdiction in all navigable waters of the State, including Lake Washington. Any work in, over, or under navigable waters of the U.S must apply for a Section 10 permit. The purpose of Section 10 permitting is to prohibit the obstruction or alteration of navigable waters of the U.S. The Corps has also issued Regional General Permit – 3 (RGP-3), to authorize new or modification of existing residential overwater structures in Lake Washington, among other water bodies, provided they comply with a set of standards. Docks that do not comply with the RGP-3 standards may still be permitted by the Corps, but would have to be permitted through the standard Section 10 procedures.

5. Conclusion

As shown in the analysis in Attachment 1, when the anticipated uses in the shoreline are considered together with the regulations that would apply, in most cases there would be no change from the existing level or ecological functions. In a few cases, development or redevelopment could only occur if ecological improvement accompanied the development, either because of regulations in the SMP, or because other regulations would force the improvement. For example, some industrial sites within the city are likely to redevelop with mixed use development, but would only be allowed if the site were cleaned up (under MTCA), and if habitat improvements were provided (under the requirements of the SMP).

References

ESA Adolfson. 2009a. City of Kenmore Shoreline Inventory and Analysis. June 2009.

ESA Adolfson. 2009b. City of Kenmore Shoreline Restoration Plan. June 2009.

City of Kenmore. 2003. Parks and Recreation Master Plan. May 2003. Available:
<http://www.ci.kenmore.wa.us/html/projects/parksplan/ParksPlan.html>. Accessed January 2008.

City of Kenmore. 2006. Final Integrated Comprehensive Plan and Environmental Impact Statement. December 2006. Available: http://www.cityofkenmore.com/dept/cd/CompPlan/4D_Natl_EnvElem_amend06.pdf. Accessed January 2008.

Attachments

Attachment 1. Future Shoreline Ecological Function Performance Analysis

Attachment 2. Shoreline Planning Areas

Attachment 3. City of Kenmore Comprehensive Plan Future Land Use Map

Attachment 4. Current Shoreline Environment Designations

Attachment 5. Adopted Shoreline Environment Designations